

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU2004/000998

## A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl. 7: E21B 4/14, E21B 10/60, E21B 21/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
DWPI: IPC E21B 4/14, 10/60, 10/38, 21/00 and keywords (passage, groove, spline, air) and like terms

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 1994/024405 A1 (SANDVIK AB) 27 October 1994 Figure 1, page 7, lines 12-25	8-10
A	WO 1990/015220 A1 (LISTER) 13 December 1990 Figures 3 and 4, page 3, lines 19-23	1-15
A	WO 2001/021930 A1 (AZUKO PTY LTD) 29 March 2001 Whole document	1-15
A	AU 200154362 A1 (AZUKO PTY LTD) 17 January 2002 Whole document	1-15

Further documents are listed in the continuation of Box C

See patent family annex

"A"	Special categories of cited documents: document defining the general state of the art which is not considered to be of particular relevance	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E"	earlier application or patent but published on or after the international filing date	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O"	document referring to an oral disclosure, use, exhibition or other means	"&"	document member of the same patent family
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search  
13 August 2004

Date of mailing of the international search report  
18 AUG 2004

Name and mailing address of the ISA/AU  
AUSTRALIAN PATENT OFFICE  
PO BOX 200, WODEN ACT 2606, AUSTRALIA  
E-mail address: pct@ipaaustralia.gov.au  
Facsimile No. (02) 6285 3929

Authorized officer  
**S. GHOSH**  
Telephone No : (02) 6283 2163

**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/AU2004/000998

<b>C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
<b>Category*</b>	<b>Citation of document, with indication, where appropriate, of the relevant passages</b>	<b>Relevant to claim No.</b>
A	WO 1988/003220 A1 (LISTER) 5 May 1988 Whole document	1-15
A	WO 2003/042492 A1 (SDS DIGGER TOOLS PTY LTD) 22 May 2003 Whole document	1-15
A	WO 1991/016521 A1 (GIEHL) 31 October 1991 Whole document	1-15
A	GB 2,243,387 A (D.T.A. PTY LTD) 30 October 1991 Whole document	1-15

**INTERNATIONAL SEARCH REPORT**International application No.  
**PCT/AU2004/000998**

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report			Patent Family Member			
WO 9424405	AU 65149/94		CA 2160151		EP 0692062	
	FI 954784		US 5407021			
WO 9015220	AU 57368/90		ZA 9004380			
WO 0121930	AU 76339/00		CA 2388762		GB 2372275	
	US 6702045		ZA 200203029			
AU 5436201	AU 54362/01					
WO 8803220	AU 81767/87		EP 0327575		GB 2215757	
	US 4911250		ZA 8708007			
WO 03042492	CA 2466939					
WO 9116521	AU 77559/91					
GB 2243387	AU 75247/91		AU 75386/91		CA 2041000	
	US 5154244					

Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.

**END OF ANNEX**